

**ABSTRACT OF THE DISCLOSURE**

A linear position sensor using time domain reflectometry (TDR) includes a rigid linear guide having a first end and a second end. The linear guide is made of a  
5 conductive material. A follower is provided having a central aperture. The follower is positioned with the linear guide passing through the central aperture. The follower is of a material that is influenced by a magnet. A TDR instrument is positioned at one end of the linear guide. The TDR  
10 instrument is adapted to send a TDR signal parallel to the linear guide which is directed at the follower. The TDR instrument receives a return signal reflected from the follower which indicates the linear positioning of the follower. At least one magnet is provided which is adapted  
15 for mounting on an object. The follower is magnetically attracted to or repulsed by the magnet to such an extent that the follower follows the movement of the magnet, thereby indicating the positioning of the object.